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INDONESIAN CAPITAL MARKET REVIEW

Corporate Financial Flexibility, Investment Activities, and Cash Holding: Evidence from Indonesia

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This paper empirically examines the impact of financial flexibility on investment activities. Furthermore, it also investigates how financial flexibility determines the sensitivity of investment activities to cash flow. By using annual data from Indonesian manufacturing firms from 2011 to 2015 and employing regression techniques, the results reveal that financial flexibility enhances investment ability and decreases the sensitivity of investment activities to cash flow. Further analysis indicates that financially flexible firms in Indonesia tend to hold a higher level of cash as a buffer to achieve financial flexibility. These findings yield important implications for managers and investors, as Indonesia's domestic market is rapidly expanding and significant business opportunities are created. This condition provides firms with an incentive to grow more quickly, hence increasing financing needs to finance firms' expansion.

Keywords: Financial flexibility; Unused debt capacity; Cash flow; Investment

JEL classification: F30; G30; G32; G35

Introduction

Financial flexibility should be the main focus for firm managers, especially in deciding their capital structure (Arslan-Ayaydin, Florackis, & Ozkan, 2014; Bancel & Mittoo, 2004; Brounen, De Jong, & Koedijk, 2006; Graham & Harvey, 2001; Ma & Jin, 2016). As conveyed by Byoun (2011), financial flexibility is a firm's ability to mobilize its financial resources in facing future uncertainties. Hence, financially flexible firms will enjoy easier access to low-cost external financing in order to meet their financing needs, which may arise from an unexpected decrease in income as well as sudden new investment opportunities, and to avoid situations that might cause underinvestment as well as poor financial

performance (Froot, Scharfstein, & Stein, 1993; Myers, 1984).

Although the concept of financial flexibility is not exactly a new thing, theoretically, financial flexibility has not been the main focus in explaining the factors that might affect a firm's financial structure decisions. Most textbooks on corporate finance refer to the standards set by Miller and Modigliani (1961), who assumed a perfect capital market case as the basis of the analysis (Denis, 2011).

If stock markets are perfectly efficient, a firm does not really need financial flexibility because in an efficient stock market there are less/no frictions that inhibit firms' access to stock market (Denis, 2011).

External financing is the major challenge

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for firms, especially in developing countries, as their stock markets have not fully developed and are characterized by a high volatility of capital flow (Agosin & Huaita, 2012; Bekaert & Harvey, 2003; Demir, 2009; Estwick, 2016; Guo & Stepanyan, 2011). Several studies have shown that easily evaporating capital flows that are experienced by developing countries will prevent the supply of funds in capital markets and bank loans, which in turn will affect the availability of capital to finance firms' investment (Guo & Stepanyan, 2011). This is why the issue of financial flexibility has become important to corporate financing decisions, especially in developing countries.

A number of studies have measured corporate financial flexibility based on their leverage policies (Billet, King, & Mauer, 2007; Byoun, 2011; Campello, Graham, & Harvey, 2010; Lins, Servaes, & Tufano, 2010). They argued that financial flexibility could be achieved through low leverage policy. Other researchers, however, considered firms with a high cash balance to be financially flexible (Acharya, Almeida, & Campello, 2007; Almeida, Campello, & Weisbach, 2004; Billet & Garfunkel, 2004; Dittmar & Mahrt-Smith, 2007; Faulkender & Wang, 2006; Harford, Mansi, & Maxwell, 2008; Kalcheva & Lins, 2007; Opler, Pinkowitz, Stulz, & Williamson, 1999; Riddick & Whited, 2008). The reason for using leverage and cash balance to measure financial flexibility is that corporations which have a high cash balance and low leverage level can better overcome income decline (losses) and avoid underinvestment (Arslan-Ayaydin et al., 2014). Thus, in this study, we use these two indicators to measure the level of financial flexibility in order to gain more comprehensive results and a deeper understanding.

Several studies have been conducted using various measurement approaches with regards to both developed and developing countries. Earlier studies on this issue are performed in relation to developed countries (Ang & Smedema, 2011; de Jong, Verbeek, & Verwijmeren, 2012; Ferrando, Marchica, & Mura, 2014; Marchica & Mura, 2010; Rapp, Schmid, & Urban, 2014), while there are still fewer stud-

ies based on developing countries, such as the one conducted by Arslan-Ayaydin et al. (2014) that measured financial flexibility using leverage ratio and cash holdings in five East Asian countries, which found that financially flexible corporations had better investment levels. Moreover, Yung, Li, and Jian (2015) measured financial flexibility by using firms' unused debt capacity in 33 developing countries and found that financial flexibility could increase corporate investment ability.

So far, there are no studies that focus on the effect of corporate financial flexibility and investment activities in relation to Indonesia. Prior studies on financial flexibility in emerging countries provide general investigation and analysis along with a lack of detailed discussion regarding possible specific characteristics of each country. Therefore, the aim of this study is to deepen the analysis on the effects of financial flexibility on corporate investment activities specifically in the context of Indonesia.

Theoretically, firms with higher financial flexibility will have the ability to execute more investment opportunities than less financially flexible firms. In the presence of market frictions, firms can anticipate potential future growth by adopting a low leverage ratio as well as maintaining a high level of cash holdings for several periods; therefore, financially flexible firms are expected to invest more consistently and pursue sudden investment opportunities. Furthermore, Yung et al. (2015) argue that financially flexible firms are less dependent on internal financing sources, since their unused debt capacities make it easier for them to access external financing sources for investment projects. Therefore, in this research, we also investigate the moderating effects of financial flexibility on the relationship between cash flow and investment. We expect that financial flexibility could improve investment ability and decrease the sensitivity of investment activities to cash flow. Arslan-Ayaydin et al. (2014) further stated that firms could reach financial flexibility, by adopting conservative debt policy and/or maintaining quite large cash reserves. Considering that capital flow volatility in developing countries such as Indonesia could be a significant

disturbance to corporate external financing, this study also looks at the inclination of financially flexible firms to apply cash holding policies.

This research has the potential to be an interesting case study for developing economies that represent most of the characteristics of an emerging market that maybe different from those in developed countries. The economy of Indonesia has experienced significant growth over the past decade. Its domestic market has expanded rapidly and large business opportunities have been created. This situation provides firms with an incentive to grow rapidly, which in turn increases the need to financing source for corporate expansion. On the other hand, Indonesia's stock market has not developed as fully as those in more advanced economies have. As mentioned by Gertner, Scharfstein, and Stein (1994) and Lee, Hooy, and Hooy (2012), firms in developing countries tend to rely more on internal capital or banks as sources of funding due to its less developed capital market.

This paper is organized as follows: In the next section provides a literature review and hypothesis development regarding corporate financial flexibility, investment activities, and cash holding. The third section presents the data, variables, and models used in this research. In the fourth and fifth sections, we discuss the findings and conclusions.

Literature Review

According to Yung et al. (2015), the current dominant theories on capital structure face difficulties in explaining the phenomenon that firms usually have low leverages. As a consequence, this phenomenon of corporate low leverage can be explained by the manager's preference towards financial flexibility in the form of unused debt capacity (DeAngelo & DeAngelo, 2007; de Jong et al., 2012; Denis & McKeon, 2012; Gamba & Triantis, 2008; Graham & Harvey, 2001; Marchica & Mura, 2010). By keeping the low debt ratio below the maximum capacity, firms expect to maintain access to external financing sources with low costs or avoid issuing shares at undesirable prices. In addition, by

having a low debt ratio, firms will have financial flexibility, which makes it possible to avoid financial restrictions during negative turbulence, and means that they are always ready to finance investments if there are profitable investment opportunities.

Previous studies relating to financial flexibility with regards to investment in developed countries (de Jong et al., 2012; Ferrando et al., 2014; Marchica & Mura, 2010) showed a consistent result that financially flexible firms have higher capital expenditure than firms which are not financially flexible. Marchica and Mura (2010) also found that a firm would be able to increase its operational performance by which more than 18% in two years after achieving financial flexibility.

Research on developing countries also demonstrated the same result, even though firms in those countries are generally highly vulnerable to external turbulence, and their stock markets are characterized by a high volatility of capital flow (Bekaert & Harvey, 2003; Joyce & Nabar, 2009). Empirical research showed that exogenous shocks in the form of capital flow volatility have negative effects on corporate investment expenditure in developing countries (Demir, 2009). Although exogenous shocks can damage corporate viability, profitability, and cash flow, they can also create opportunities for firms with investment ability (Yung et al., 2015).

Moreover, Arslan-Ayaydin et al. (2014) found that firms with financial flexibility had greater chances to acquire investment opportunities during financial crises that affected developing countries. Financial flexibility also allows firms to avoid financial difficulties when facing negative obstacles, allowing financially flexible firms in developing countries to increase their investment abilities since financial flexibility makes it possible for them to invest more consistently and to chase suddenly appearing opportunities. Furthermore, the investment ability of financially flexible firms does not depend solely on internal financing because their unused debt capacity makes it easier to gain external financing to fund their projects. Therefore, based on the earlier explanations, the hypotheses are as follows:

Hypothesis 1: Financial flexibility increases corporate investment ability in Indonesia.

Hypothesis 2: Financial flexibility reduces investment sensitivity against firm cash flows in Indonesian firms.

Financial flexibility also has a significant impact on a firm's cash condition. Having sufficient cash will make it possible for firms to invest in profitable projects without relying on expensive external financing or cutting down dividends (Myers, 1977). Cash supply is also beneficial as a buffer during periods of cash flow uncertainty (Bates, Kahle, & Stulz, 2009). In addition, Denis (2011) showed that when external financing is difficult to obtain, firms take the initiative to increase financial slack by keeping cash to avert negative consequences arising from income decline. Moreover, Arslan-Ayaydin et al. (2014) found that firms are able to reach financial flexibility by adopting a conservative debt regime and/or by maintaining quite large cash reserves. Considering that capital flow volatilities in developing countries are a significant hindrance in obtaining corporate external financing, the third hypothesis is as follows:

Hypothesis 3: Financially flexible firms have higher cash holdings than less financially flexible firms.

Research Methods

Data and Sample Characteristics

The study employs data on manufacturing firms listed in the Indonesian stock exchange from 2011 to 2015. We restrict the samples to manufacturing companies in order to control variations due to their differences in the level of investment as well as their business processes that have different characteristics as compared to other types of company. Most of the data are retrieved from the listed companies' financial reports provided by the *Wall Street Journal* (WSJ), while macroeconomic data are retrieved from Bank Indonesia statistics. Next, we exclude firm year observations with negative eq-

uity and outlier observations of the research variable. Based on the criteria, our final sample comprises 289 firm years from 80 Indonesian manufacturing firms.

Empirical Models and Variables

Financial Flexibility Measurement

Theoretically, financial flexibility means that a firm has an unused debt capacity. In other words, firms operate below their optimum debt capacities. This research follows the procedures adopted by Marchica and Mura (2010) and Yung et al. (2015) to identify firms with and without financial flexibility in the samples. As our first step, we estimate the optimum debt capacity with the following regression model:

$$LEV_{it} = \alpha + \beta_1 LEV_{i,t-1} + \beta_2 Industry_{i,t-1} + \beta_3 MTB_{i,t-1} + \beta_4 Size_{i,t-1} + \beta_5 Tangibility_{i,t-1} + \beta_5 Profit_{i,t-1} + \beta_6 Inflation_{t-1} + u_{it} \quad (1)$$

The operational definitions of each variable used in this study are presented in Table 1. Based on equation (1), firms are considered to have unused debt capacities if there is a negative deviation between actual and predicted leverage ratios. In other words, if we find residual error value (u_{it}) to be negative, then we consider that the firms operate below their optimum debt capacities, or are considered financially flexible. Similar to Marchica and Mura (2010) and Yung et al. (2015), in this research, it takes at least two consecutive years for firms operating below their optimum debt capacities to be classified as financially flexible. Furthermore, this research also considers financial flexibility as a dummy variable, using the value of 1 if the firm has at least two consecutive years where their leverage ratio is below the optimum capacity, and zero if otherwise.

Financial Flexibility and Investment Activities

Financially flexible firms are predicted to be more consistent in undertaking investments because they have more access to sources of financing. To understand this relationship, we

Table 1. Variable Definitions

Variable	Definition
Financial flexibility	Unused debt capacity is the difference between actual and predicted leverage ratios based on equation (1), and financial flexibility is the dummy variable that takes the value of 1 if a firm has at least two consecutive years of negative unused debt capacity, and 0 if otherwise.
Leverage (LEV)	Ratio of total debt to total assets.
MTB	Book value of assets plus market value of equity minus book value of equity divided by book value of assets.
CapEx_TA	Capital expenditure scaled by total assets.
Cash flow_TA	Total operating cash flow divided by total assets.
Profitability	Earnings after tax divided by total assets.
Cash holdings	Cash and equivalents to total assets.
Tangibility	Fixed assets to total assets.
NWC_TA	Net working capital scaled by total assets.
Inflation	Annual inflation rate.
Sales growth	Percentage change of sales.
LTA	Natural logarithm of total assets.

employ the model developed by Yung et al. (2015).

$$\begin{aligned}
 \text{Investment activity}_{it} = & \alpha_1 \\
 & + \beta_1 \text{Financial Flexibility}_{i,t} \\
 & + \beta_2 \text{Cash Flow}_{i,t} \\
 & + \beta_3 \text{CapEX_TA}_{i,t-1} \\
 & + \beta_4 \text{Sales Growth}_{i,t-1} \\
 & + u_{it}
 \end{aligned} \quad (2)$$

Investment activity is measured by capital expenditure scaled by total assets. We use the lagged value of control variable to control for potential endogeneity problems.

The Mediating Role of Financial Flexibility in the Relationship between Cash Flow and Investment Activities

This study also looks at the mediating role of financial flexibility with regards to the sensitivity of investment activity to cash flow. As predicted in Hypothesis 2, financially flexible firms will have less dependency on their internal financial sources, since they have easier access to external financing at low cost. To examine the mediating role of financial flexibility, we employ the following equation:

$$\begin{aligned}
 \text{Investment activity}_{it} = & \alpha_1 + \beta_1 \text{Financial} \\
 & \text{Flexibility}_{i,t} + \beta_2 \text{Cash Flow}_{i,t} + \beta_3 \text{Cash Flow}_{i,t} \times \\
 & \text{Financial Flexibility}_{i,t} + \beta_4 \text{CapEX_TA}_{i,t-1} + \\
 & \beta_5 \text{Sales Growth}_{i,t-1} + u_{it}
 \end{aligned} \quad (3)$$

Financial Flexibility and Cash Holdings

Through Hypothesis 3, this study also investigates whether there is a difference in the cash holding policies between financially flexible firms and non-financially flexible firms. Theoretically, financially flexible firms tend to store cash in larger amounts, which is useful as a reserve fund that anticipates unexpected losses as well as suddenly appearing investment opportunities. For this purpose, the equation is as follows:

$$\begin{aligned}
 \text{Cash}_{it} = & \alpha_1 + \beta_1 \text{Financial Flexibility}_{i,t} \\
 & + \beta_2 \text{LTA}_{i,t-1} + \beta_3 \text{MTB}_{i,t-1} \\
 & + \beta_4 \text{Cash Flow}_{i,t-1} + \beta_5 \text{NWC_TA}_{i,t-1} \\
 & + \beta_6 \text{CaPex_TA}_{i,t-1} + u_{it}
 \end{aligned} \quad (4)$$

The independent variable is cash holdings to total assets, while LTA is the natural logarithm of total assets. As argued by Arslan-Ayaydin et al. (2014), financial flexibility can be achieved by having a low level of leverage and/or by holding substantial cash reserves. Hence, we predict that financially flexible firms will have a higher level of cash holdings.

Results and Discussion

Descriptive Statistics

Table 2 provides descriptive statistics of the variables being observed. The cash holdings to total assets ratio has a mean of 0.0738 and a

Table 2. Descriptive Statistics (n = 289)

Variable	Mean	Std. Deviation	Skewness	Kurtosis
Cash Holding	.0737878	.12377995	-3.228	30.819
Capital Expenditure	.0741740	.07677689	.144	4.073
Cash Flow	.1225670	.11908379	1.200	.512
NWC	.2567793	.23015714	-.035	.574
MTB	1.4799568	1.13036879	2.339	6.247
Ln(Total assets)	14.1607327	1.64937476	.617	.038
Sales Growth	.1265308	.17260937	-.393	1.760

standard deviation of 0.1238, suggesting that around 7% of the total assets in Indonesian firms is comprised of cash and cash equivalents. The capital expenditure statistic has a mean of 0.07418, with a standard deviation of 0.07677; this value is relatively higher if we compare it with the US data from Ramalingegowda, Wang, & Yu (2013) indicating that firms in Indonesia have a higher level of investment expenditure. The mean statistic of cash flow is 0.1225 and the standard deviation is 0.1190, implying that the average cash flow among Indonesian manufacturing firms is relatively stable. Net working capital to sales ratio has a mean value of 0.2567, indicating that networking capital contributes around 26% of the total assets. The market to book ratio has a mean of 1.479, indicating that most firms in the sample are valued higher than their book value by investors. The natural logarithm of total assets has a mean value of 14.16 and a standard deviation of 1.649. Finally, sales growth has a mean value of 0.1265, indicating that sales growth is around 13%; this rate is considered as high if we compare it with the data on 33 emerging countries from Yung et al. (2015).

Financial Flexibility, Cash Flow, and Investment Activity

Table 3 presents the test results on how financial flexibility affects investment activity. The regression results based on Model 2 and 3 reveal that financial flexibility has a positive impact on investment activity. As expected, these results indicate that financially flexible firms in Indonesia have higher investment expenditure than non-financially flexible firms. These results support the finding of previous studies that financial flexibility enhances investment

ability in emerging countries (Arslan-Ayaydin et al., 2014; Yung et al., 2015).

In this research, we also examine the effect of operating cash flow, as an internal source of investment expenditure, on investment activity. The results indicate that cash flow has positive and significant effects on investment. The higher the cash flow, the higher the investment opportunity that can be executed by the firm, since operating cash flow is the main internal source of financing for the firm. For the control variables, sales growth has a positive impact on investment: as the growth of the sales increase, the firm will maintain its growth by expanding its operation through investment in fixed asset, in order to gain more growth rate.

Furthermore, we also perform an analysis of how financial flexibility determines the sensitivity of firms' investment to operating cash flow. The results in Table 3 (model 2) reveal that the interaction variable between financial flexibility and cash flow (*cash flow x financial flexibility*) has a negative and significant coefficient of -0.205. This result indicates that for financially flexible firms, investment activity is less dependent on, or sensitive to, the operating cash flow as an internal source of funding. A possible explanation for this finding is that financially flexible firms will have easier access to external sources of funding to finance their investment needs. The results conform to earlier research by Arslan-Ayaydin et al. (2014) and Yung et al. (2015). Furthermore, sales growth also has a positive and significant impact on investment activity. The high growth rate of previous sales indicates the potential growth of future demand; the firm then responds to this growth opportunity by expanding their capacity through investment in fixed assets.

Table 3. Financial Flexibility, Cash Flow, and Investment Activities

	<i>Investment Activity</i>	
	Model 2	Model 3
<i>Constant</i>	0.030*** (0.000)	0.022*** (0.000)
<i>Financial Flexibility</i>	0.015** (0.040)	0.050*** (0.000)
<i>Cash Flow</i>	0.064** (0.015)	0.127*** (0.001)
<i>Cash Flow x Financial Flexibility</i>		-0.205** (0.029)
Control Variables		
<i>Capital Expenditure (t-1)</i>	0.291*** (0.000)	0.347*** (0.000)
<i>Sales Growth (t-1)</i>	0.043** (0.020)	0.026 (0.122)
<i>Number of Obs.</i>	257	257
<i>R Square</i>	0.257	0.326
<i>Adjusted R Square</i>	0.245	0.312
<i>Standard Error of Estimate</i>	0.0499	0.0519
<i>F(χ^2)</i>	21.795***	23.473***
<i>Sig.</i>	0.000	0.000
<i>Durbin-Watson</i>	1.872	1.896

Note: Estimated based on equations (2) and (3). Figures in brackets are probability values based on White robust standard errors for heteroskedasticity. ***, **, and * show statistical significance at 1%, 5%, and 10% levels, respectively.

Table 4. Financial Flexibility and Cash Holdings

	<i>Cash holdings</i>
<i>Constant</i>	0.010 (0.840)
<i>Financial Flexibility</i>	0.027** (0.034)
Control Variables	
<i>Ln (Total assets)</i>	0.001 (0.688)
<i>Market to Book (MTB)</i>	0.011** (0.048)
<i>Cash Flow</i>	0.167*** (0.001)
<i>NWC_TA</i>	0.258*** (0.000)
<i>Capital Expenditure</i>	-0.148** (0.045)
<i>Number of Obs.</i>	289
<i>R Square</i>	0.421
<i>Adjusted R Square</i>	0.408
<i>Standard Error of Estimate</i>	0.0916
<i>F(χ^2)</i>	34.144***
<i>Sig.</i>	0.000
<i>Durbin-Watson</i>	1.972

Note: Estimated based on equation (4). Figures in brackets are the probability values based on White robust standard errors for heteroskedasticity. ***, **, and * show statistical significance at 1%, 5%, and 10% levels, respectively.

Financial Flexibility and Cash Holdings

Financial flexibility can be obtained either by having a low level of debt ratio or by main-

taining a high level of cash holdings. To examine the third hypothesis, Table 4 provides the regression results of equation (4). The results reveal that financial flexibility has a positive

and significant coefficient of 0.027, indicating that financially flexible firms have a higher level of cash holdings than non-financially flexible firms do. By having greater available funds in the form of cash holdings, the firm will be more resistant to any unanticipated earning shortfall (Bates et al., 2009), and will have greater capacity to undertake profitable investment opportunities. Moreover, as argued by Myers (1977), holding more cash enables firms to undertake profitable projects without resorting to costly external financing or reducing dividend payouts.

For the control variables, total assets do not have a significant impact on cash holdings. On the other hand, market to book value has a positive and significant impact on cash holdings. The high market to book ratio indicates a greater future potential growth of the firms, hence firms will have a greater funding need to finance their investments; for this purpose, a firm will increase their cash balance.

In addition, operating cash flow has a positive and significant effect on cash holdings. Unused cash flow from operations will provide an opportunity for the firm to accumulate their cash balance. Moreover, net working capital has a positive and significant effect on cash holdings. The higher the working capital, the higher the volume of corporate transactions; to meet the needs of the transaction, the company will hold cash in larger quantities. Furthermore, capital expenditure has a negative impact on cash holdings: the higher the investment activities of the firm, the more funds needed to finance the activities. The firm will use their available cash balance to finance this investment activity, hence the cash holdings will decrease.

Conclusions

This paper empirically examined the relationship between corporate financial flex-

ibility and investment activities in the context of Indonesia, by employing annual data from manufacturing companies. Firms are regarded as financially flexible if they have leverage below their debt capacity; therefore, using this measurement approach, a financially flexible firm is one with a negative deviation between its actual and expected leverage ratios. The results from regression analysis showed that financial flexibility enhances firms' investment ability. Interestingly, this study also found that financial flexibility would reduce the sensitivity of investment activities to cash flow. This means that the investment ability of financially flexible firms does not solely depend on internal sources of financing, since their unused debt capacity makes it easier to gain external financing at a lower cost. Furthermore, we also analyzed the impact of financial flexibility on cash holdings. The results indicate that financially flexible firms tend to have a higher cash balance than non-financially flexible firms, and that firms with readily available large cash balances can better cope with earnings shortfalls and thus avoid underinvestment.

The findings of this study provide several interesting implications for firms and investors. Given the evidence on the positive relationship between financial flexibility and investment activity, firms in emerging countries will gain more benefit by maintaining a low level of debt; therefore, with their unused debt capacity, they can anticipate the financing needed to undertake future investment opportunities. In the context of Indonesia, as its domestic market rapidly expands, large business opportunities are created. This opportunity provides firms with an incentive to grow more quickly; therefore, an increase in financing is required to finance firms' expansion and by maintaining a low level of debt to increase financial flexibility, firms will be able to undertake investment opportunities with lower financing costs.

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